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AUTHOR Brown, Helen W.
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ABSTRACT

Illiteracy is a serious problem for older people, particularly for older minorities. Of the 23 million adults in the United States classified as functionally illiterate, 44 percent are over 50, and those 60 and over account for about one-third of the totally illiterate population. Being illiterate to whatever degree diminishes the employment potential of older adults. The Federal Government, state governments, private sector employers, and voluntary organizations fund numerous programs to provide literacy training to millions of people. However, few of these programs reach older adults and fewer still serve older minorities. Based on a review of current literacy efforts, suggested future options include the following: (1) development of literacy training programs especially designed for the older population closely linking literacy and occupational skills training; (2) improvement of teaching techniques and methods needed to meet the learning needs of older minorities; and (3) promotion of coalition building between organizations serving older minorities and literacy providers to coordinate educational, employment, and supportive services for older adults. (46 references.) (KC)

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LITERACY TRAINING

and

OLDER AMERICANS

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

by

Helen W. Brown, Ph.D., M.P.H.

The Public Policy Institute was formed in 1985 as part of the Division of Legislation, Research, and Public Policy of the American Association of Retired Persons. One of the missions of the Institute is to foster research and analysis on public policy issues of interest to older Americans. This paper presents part of that effort.

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The Public Policy Institute of the American Association of Retired Persons commissioned a review of literacy programs in the public and private sector to determine the extent to which the literacy needs of older Americans in general and minorities in particular are being met. Toni Quarles and Brenda Lester conducted the review and prepared a background paper for a roundtable meeting sponsored by AARP in November 1988, on the literacy and employment training needs of older adults. The information assembled by Quarles and Lester and suggestions from the roundtable participants are incorporated in the present paper.

EXECUTIVE SUMMARY

Illiteracy is a serious problem for older Americans, particularly for older minorities. Of the 23 million adults in America today classified as functionally illiterate, 44 percent are over 50, and those 60 and over account for about a third of the totally illiterate population. Being unable to adequately read and write diminishes the employment potential of older Americans at a time when technological advances and the change to a service-based, information-driven economy demand higher levels of education and language skills in the workplace.

The problem is critical for older minorities for whom the rate of illiteracy may be three and four times higher than for older whites. For older minorities who have suffered a lifetime of employment problems, the lack of literacy skills decreases their chances of finding employment and advancing on the job, leaving them with insufficient retirement income.

America's future prosperity and competitiveness will depend on an educated, productive workforce capable of adapting to increased literacy skill requirements. It is estimated that billions of dollars are being lost each year due to low productivity, accidents, employee errors and additional training problems attributed to illiteracy.

The federal government, state governments, private sector employers, and voluntary organizations fund numerous programs to provide literacy training to millions of Americans. This report highlights some of the literacy initiatives serving older Americans. However, this review found that few of these programs reach older adults and fewer still serve older minorities.

Adult education programs that focus on adult basic education and English as a second language comprise the primary federal effort to address basic skills needs of adults. However, only two percent of the federal budget goes to education and only one percent of the education budget goes to adult literacy programs. Although these serve approximately three million individuals 16 and over, only 6.2 percent -- about 184,000 persons -- are 60 and above. The percentage of the funds allocated to older persons varies widely, from a low of one percent in some states to a high of 19 percent in others.

Increasingly, employers are establishing workplace literacy programs on-site in collaboration with public education agencies. However, either because of the design of the training or reluctance on the part of workers 55 and over, few older adults have received literacy training in these programs.

Based on this review of current literacy efforts, suggested future options include: development of literacy training programs especially designed for the older population closely linking literacy and occupational skills training; improvement of teaching techniques and methods needed to meet the learning needs of older minorities; and promotion of coalition building between organizations serving older minorities and literacy providers to coordinate educational, employment and supportive services for older adults.

INTRODUCTION

History reveals that the problem of illiteracy and its negative consequences have long been recognized in America. For example, Thomas Jefferson stated, "a nation that expects to remain free and ignorant in a state of civilization, expects what never was and never can be" [1]. In 1917, Congress passed legislation that made literacy a requirement for naturalization and authorized the Federal Immigration and Naturalization Service to work with public schools to provide literacy programs. In 1920, President Hoover appointed an advisory committee on national illiteracy. In the 1940s, educational materials were developed for military draftees who could not read. In the 1960s, literacy education began in adult basic education classes under the auspices of the U.S. Department of Education. In 1971, the Right to Read group proclaimed that they would eradicate U.S. illiteracy within ten years. To focus national attention on the problem, in 1983 President Reagan established the Adult Literacy Initiative. Since President Bush was elected, Mrs. Bush's personal crusade for literacy has focused national attention on the problem [2]. Recently, the U.S. House Subcommittee on Education, Arts and Humanities held hearings on "The Challenge of Eliminating Illiteracy" [3], and regularly, the popular press features articles on the problem of illiteracy. The consensus seems to be that the problem of adult illiteracy is critical because in today's society, literacy is necessary to function adequately in the workplace as well as in the home, and in most areas of daily living.

Despite numerous efforts over the years to eliminate adult illiteracy, the problem persists, and especially in the subgroups of older adults and minorities. Thus, the focus of this report is on the problem of illiteracy among older adults, particularly minorities, and linkages to employment and the economy. The purpose is to better understand the issues of illiteracy for older adults so that more effective policies can be developed to address the problem. Toward this goal, this paper reviews (1) the character and size of the problem of illiteracy in the older adult and minority populations and implications for employment and the economy, (2) public and private sector literacy initiatives, and (3) suggests options to better meet the literacy needs of older adults.

CHARACTER AND SIZE OF THE PROBLEM

ILLITERACY PREVALENCE IN THE OLDER-ADULT POPULATION

Because literacy is defined and measured in several ways, the number of older adults in the United States who are illiterate depends on "the definition of literacy used, the population surveyed, and the way that population is assessed" [4].

Definitions of illiteracy have evolved over the years, adapting to the changing literacy needs of an industrial, post-industrial, to the present technological society. Consequently, the standards used to measure literacy range from the lowest, the basic ability to read and write at the elementary-school level, to the higher, the ability to perform complex cognitive processes. The way literacy is assessed varies from self-

report, to educational attainment, to performance on written tests. In regard to the age of the population surveyed, some researchers refer to persons 40 and over, while others begin with persons 65 and over.

TRADITIONAL OR CONVENTIONAL ILLITERACY

In the farm-and-buggy economy of the nineteenth century, a person was judged literate if he could sign his name [5]. Based on information obtained in the 1880 Census survey, Americans were judged illiterate if they reported that they could not read or write English or a language spoken at home or had not completed a specified number of years of formal education. In the machine economy of the early 1900s, literacy generally meant completing the sixth grade; the military based literacy on the completion of eighth grade. Today in the Information Age of computers and high technology, literacy requires a bare minimum of reading and writing skills at the high school-graduate level [5]. Indicators such as the level of educational attainment are used to measure conventional or traditional illiteracy -- the lowest standard for literacy.

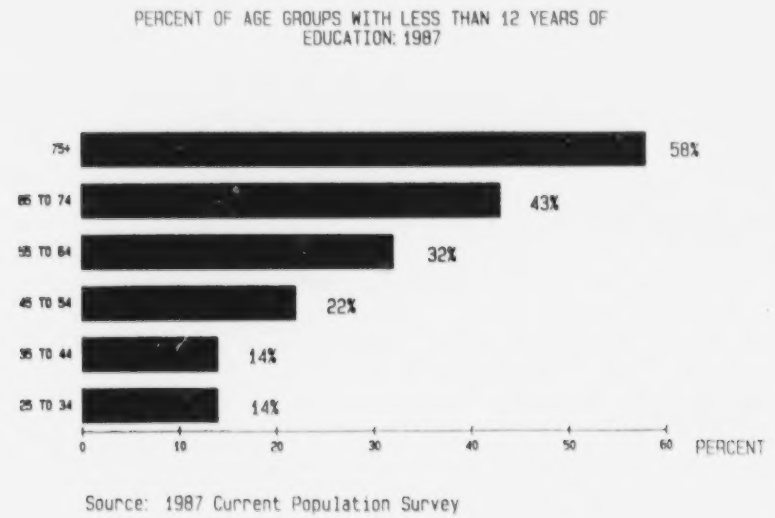

Figure 1.

The prevalence of traditional or conventional illiteracy in the older-adult population has been estimated as follows:

- In 1979 approximately 2.1 million or nine percent of older people had no, or less than five years, of schooling compared to only one-sixth of one percent for the total population.

- The 1980 Census revealed that nearly 52 million adults 16 years and over are not enrolled in high school and have completed less than four years of high school [4]. Over 26 million of these adults reported an education attainment level of eighth grade or less, and more than seven million adults 60 and over had not completed the eighth grade [6].

- Using high school completion as the indicator of literacy, as shown in Figure 1, according to 1987-Census data, 22 percent of the adults 45 to 54, 32 percent of the adults 55 to 64, and 43 percent of the adults 65 to 74 are illiterate [6].

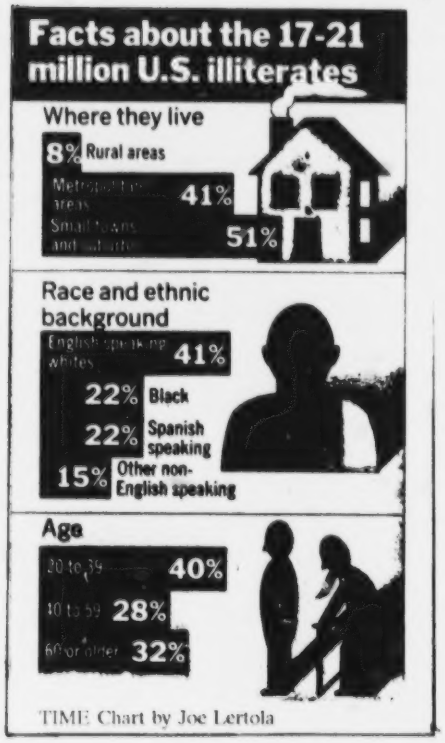

Figure 2. Reprinted by permission

- The Measure of Adult English Proficiency Study (MAEP), commissioned by the U.S. Department of Education and conducted by the Bureau of the Census in the fall of 1982, consisted of a sample of 3,400 adults 20 and over completing a simple written tests of English comprehension. The test was designed to measure "bedrock inability to read, with no attempt to establish the number of U.S. adults who, although technically literate, cannot read well enough to function as a successful citizens" [7]. The study estimated the number of illiterates to be about three-and-half times more than the number of adults with less than six years of school--17 to 21 million versus 5.2 million. As Figure 2 shows, approximately 28 percent were 40 to 59, and 32 percent were 60 or older [7]. Thus, 59 percent of the illiterate persons were minorities. Furthermore, the rate observed for adults under 40 was 5.2 percent, compared to 14.1 percent for those 40 and over [4].

These statistics substantiate that traditional or conventional illiteracy is prevalent in the older adult population. The price of this level of illiteracy often translates into a lifetime of poverty, humiliation and dependency.

FUNCTIONAL ILLITERACY

The term functional illiteracy began to be used during the 1940s and 1950s to describe persons who may be able to read or write but are incapable of understanding written instructions necessary to accomplish specific tasks or functions [3]. As researchers have identified skills needed to function in society, the standards of literacy

have been raised and are more complex to keep pace with the higher technological and informational needs of society. Functional illiteracy is defined as the lack of the essential knowledge and skills to function effectively in the environment--the home, the community, the workplace. Functionally illiterate adults have some literacy ability but not much relative to age peers and socially perceived needs for literacy [4].

The Adult Performance Level (APL) study, conducted in 1975 by the University of Texas, was designed specifically to measure adult functional literacy [8]. The APL study interviewed a sample of 7,500 adults to examine the competency in areas of knowledge and skill deemed necessary for adult living: occupation knowledge, consumer economics, government and law, health, community resources, reading, problem solving, computation and writing. The study developed a competency index of the relationship between literacy competency and measures of adult performance in life: income, job status, and education. The following three competency levels were found:

APL 1: adult competency associated with inadequate income of poverty level or less, eight years of school or less, unemployment, or low job status.

APL 2: adult competency associated with income of more than the poverty level but no discretionary income, education of nine to 11 years of school and occupations falling in the middle of the job status range.

APL 3: adult competency associated with high levels of income, high levels of education including high school completion or more, and high levels of job status [8].

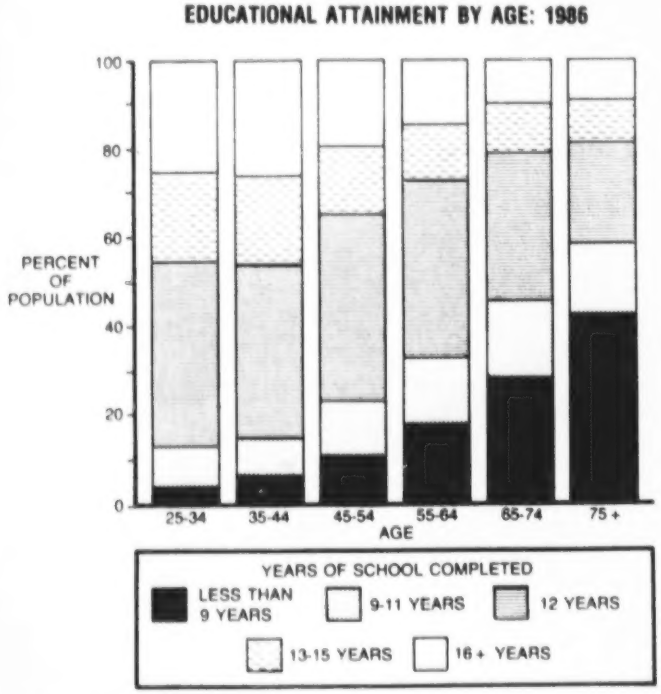

Figure 3.

SOURCE: U.S. Bureau of the Census. Unpublished data from the March 1988 Current Population Survey.

The findings of the APL study indicated that large numbers of Americans, judged by the combination of their competencies and performance, had difficulty functioning; one out of five, or 27 million, adults 18 and over are functionally illiterate. The APL approach estimated that 23 million adults fall in APL 1 and thus function with great difficulty in today's society and an additional 40 million can function but not proficiently at APL 2. The result is a total of 63 million Americans who are not proficient in meeting the literacy requirements of everyday adult life [4].

In summary, as Figure 3 shows, at all levels, the educational attainment of older adults is lower than that of younger adults. Therefore, the risk of an older adult being either conventionally or functionally illiterate is greater than for other age groups.

LITERACY PROBLEMS OF OLDER MINORITIES

In its July 1988 publication, "A Profile of Elderly Black Americans," the National Caucus and Center on Black Aged, Inc. (NCCBA), reported that older blacks are four to five times more likely to be functionally illiterate than older whites [9]. Census data show that in 1980, 24.8 percent of all black men and 16.2 percent of black women 65 and over had completed less than five years of schooling compared to five and four percent, respectively, of white men and women 65 and over [10]. Other statistics also reveal that illiteracy is a serious problem among minorities:

- The University of Texas APL study estimated that 44 percent of blacks and 56 percent of Hispanics are functionally illiterate, compared to 16 percent of the white population [11].

- The median number of years of school completed varied considerably by race and ethnic origin among older persons in 1987: 12.1 years for whites, 8.4 years for blacks, and 7.4 years for Hispanics [12].

- The most educationally disadvantaged group in our society is the elderly Hispanic. According to the Bureau of Census, in 1987, 30.9 percent of all Hispanic men 65 or older and 31.5 percent of all elderly Hispanic women were illiterate, as they had less than five years of formal education [13].

- The 1980 Census showed that nearly 12 percent of all Native American elderly have no formal education; and approximately 78 percent have not completed from high school [13].

- Census data from 1980 show that 13 percent of the Asian/Pacific Islander elderly lack any formal education and 74 percent have not completed high school.[13]

According to a report released by the National Council of LaRaza, by any measure of illiteracy employed, Hispanics have substantially higher rates of illiteracy than any other major population group [15].

LINKAGES BETWEEN OLDER ADULT ILLITERACY, THE WORKFORCE AND THE ECONOMY

History supports the strong link between literacy and the economic well-being of the nation. The empowerment of literacy has long been understood in America. For example, when slavery was used by early Americans as a source of free or cheap manual labor, public policy forbade teaching the slaves to read and write [16]. Whereas in the past, policy makers rationalized that illiteracy among minorities populations served an economic purpose, today, they recognize that the prevalence of illiteracy among certain minorities is a threat to America's economic productivity and prosperity [3]. For now, This is because not only is there now a large number of older illiterate adults, but in families, often illiteracy is perpetuated from generation to generation.

Often the concern about illiteracy focuses on youth and young adults, not older adults. For example, the recent Southport Institute for Policy Analysis publication, "Jump Start: The Federal Role in Adult Literacy" [17], neglected to mention the need to include older adults in literacy training programs. Even when literacy needs of older adults are considered, often the focus is on personal-enrichment activities. Seldom does the problem of illiteracy focus on the employment potential and needs of older adults [18].

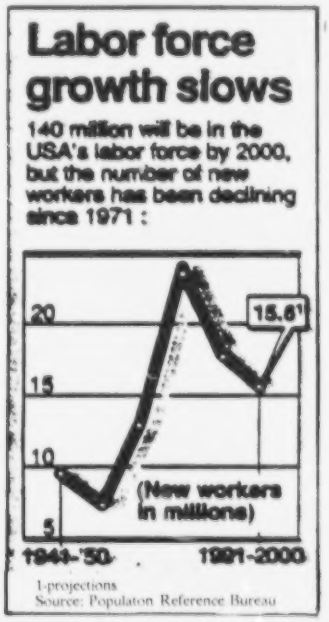

Figure 4. Reprinted by permission

Yet, the demographics of an aging society, the prevalence of illiteracy among older persons--particularly older minorities, and the future need for more older persons to remain in the workforce as the "baby bust" generation moves into its prime working years, all point to the need for literacy training programs oriented to the needs of older persons. Such efforts now will help prepare our nation for the twenty-first century when we will need the skills and abilities of all our workers if our nation is to remain competitive. Evidence is increasing that supports a link between illiteracy in the older adult population, particularly minorities, and the issue of international competitiveness and productivity and the future job market. For example:

- **As people live longer, they are able to work longer.** Due to improved medical treatment, people are living longer and staying healthier into their 60s, 70s, 80s and beyond for some. This means that they can and will extend their work lives.

- **Labor shortages are predicted in the future.** As shown in Figure 4, the number of new workers is declining [19]; thus, labor shortages are predicted for the future. Although reducing the size of some companies may be inevitable, others ranging from insurance companies to fast-food giant McDonald's Corp to aircraft-maker Grumman Corp agree they need to attract older workers to stave off an impending labor shortage [20].

- **Illiterate adults do not seek employment.** In 1987, refugees who spoke no English had an unemployment rate of 52 percent; for refugees who spoke English well, the unemployment rate was 11 percent [21]. For refugees 45 and over, 15 percent gave the reason for not seeking employment as limited English or education.

- **The civilian work-force is aging.** The post-World War II baby boom has been followed by a "baby bust." Consequently, the average age in the civilian labor force will creep upward. In 1986, the median age for the civilian labor force was 35.2 years. It is projected that the median age by the year 2000 will be 38.9 [22].

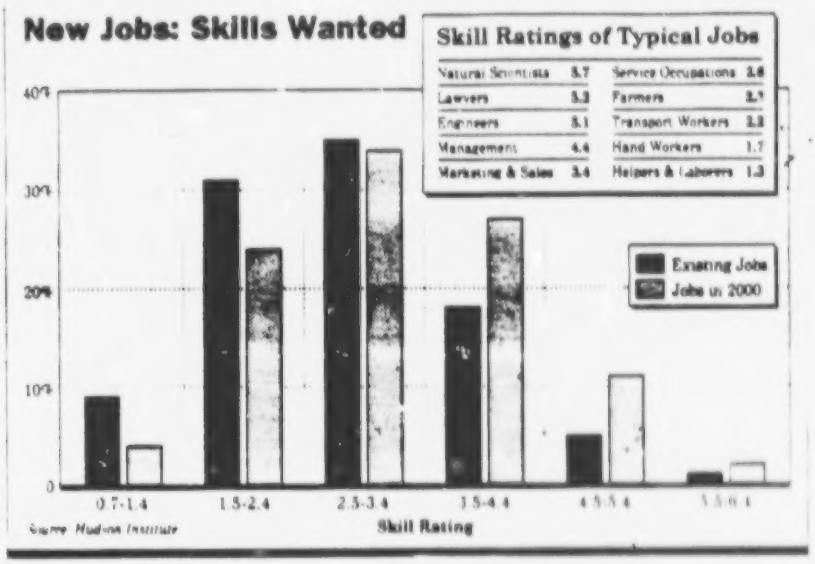

Figure 5. Reprinted by permission

Although there is evidence that there will be a need for older adult workers and many of whom will want to remain in the labor force, it is also evident that illiteracy will

preclude many older persons from participating in gainful employment. For example:

- **New jobs will require higher levels of education.** As Figure 5 shows, for the first time in the history of the United States, the majority of new jobs created will require a post-secondary education [23]. Only 14 percent of the new jobs will be available to persons with less than a high school education [24] a drop from the current level of 40 percent [25].

- **Changing technologies in the workplace require higher levels of reading, writing, and computing skills.** With the advances in computers, telecommunications, and automation, all workers must be able to learn new skills and adapt to the changing workplace.

- **Higher literacy skills will be required for existing jobs.** For example, by April 1992, the U.S. Department of Transportation will make mandatory the passing of a 50-question multiple-choice written examination to obtain a license to move hazardous materials [26].

At the recent "Hearing on the Challenge of Eliminating Illiteracy Part II", Senator Paul Simon(D-IL) made the following comments on minorities of all ages and employment:

> Blacks, Hispanics, Asians and other races will account for roughly 57 percent of the labor force growth from 1986 to the year 2000. When women are added, females and minorities will exceed over 80 percent of the work force growth and these are the same groups that have historically been disadvantaged. Minorities dominate the pool of unwanted and increasingly unused labor, with an estimated 44 percent of blacks and 65 percent of Hispanics that are functionally illiterate [3].

Within the older population, members of minority groups have experienced lifetime problems in the job market. The National Commission for Employment Policy stated in its ninth annual report that older blacks are four times as likely and Hispanics more than three times as likely as whites to have labor market problems [27]. Some reasons given for this are their lower levels of education, often due to discrimination in their early lives, language barriers, and low-wage jobs. The result is little job stability, few opportunities for training, and lifelong poverty. Illiteracy plays a major role in these employment problems.

An American Association of Retired Persons (AARP) report, "Work and Retirement: Employees Over 40 and Their Views," found that the majority of the workers surveyed wanted training that would enable them to advance. However, those who wanted it most strongly were those least likely to have received training recently. This group included workers 63 and over, those with lower incomes, those with less education and those employed by small private sector firms [28]. Even if given the opportunity, workers cannot acquire new skills demanded by the changing technologies if

they do not possess basic skills in reading, writing, communicating orally and using mathematics.

LITERACY INITIATIVES

FEDERAL PROGRAMS

A recent study completed for the Federal Interagency Committee on Education found there are 79 literacy-related programs administered by 14 Federal agencies [29]. These programs serving many different populations, obligated $347.6 million for literacy activities in FY 1985 [30]. The four federal agencies most active in the area of literacy for older adults (55 and above) are the Department of Health and Human Services (DHHS), The Department of Labor (DOL), The Department of Education (DOE) and ACTION. The following sections discuss the efforts of these departments to provide basic skills/literacy training to older adults.

Department of Health and Human Services

DHHS had 12 programs providing literacy services funded at a total of $51 million in FY 1985 [29]. Most of the literacy training provided to older Americans under DHHS was available through efforts funded by the Administration on Aging (AoA) and the Refugee Resettlement Program administered by the Family Support Administration.

Administration on Aging's Literacy Initiative

In October 1985, AoA awarded grants totaling $870,552 to 20 State Offices on Aging to promote literacy opportunities for older persons. This one time effort was in response to President Reagan's Adult Literacy Initiative (ALI). The purpose of the grants was to demonstrate innovative ways of improving literacy services for older persons through partnerships with public and private sector organizations. Following are three examples of programs supported under this initiative:

1. Of 14 agencies that received grants from the Indiana Department of Aging and Community Services, three were serving older minorities. Agency contractors taught older persons to be tutors and recruited older learners. Local program staff identified the lack of transportation and the shortage of large printed materials as two problems encountered [31].

2. In Alabama, using demographic data, the Alabama Commission on Aging selected six counties where the need for literacy training was greatest and established programs that gained the support of the community and of older trainees.

3. The Older Alaskan Commission developed model computer literacy programs to

train tutors to work in senior centers in cooperation with a resource center for adult education. A sub-contractor set up computers at five senior centers adjacent to nutrition sites. Tutors taught basic skills using a computer tutorial program for reading, writing and math [32].

Among the problems mentioned by some of the state projects were lack of transportation; shortage of large print materials, especially in testing materials; and psychological barriers to recruitment of older persons. For example, intense peer pressure was reported, discouraging older adults from making changes in their lives.

Family Support Administration's Refugee Resettlement Program

The Refugee Act of 1980, P.L. 96-212, provides assistance to refugees in attaining self-sufficiency through state-administered programs. Assistance includes cash, medical care and social services. The most heavily used services are English as a Second Language, job training and job placement. The Office of Refugee Assistance in the Family Support Administration is the administering agency which provides training for refugees through community organizations such as YMCAs, churches and social service agencies [21].

During the past five years, the number of refugees entering the country has been between 60,000 and 70,000 annually, of whom only about 3 percent or 2,100 are aged 65 and over. Of the total refugee population, about 14 percent are aged 45 and over, though refugees from the Soviet Union tend to be older with about 20 percent in their sixties. In 1983, about 45,000 refugees received some literacy services [21]. Literacy services are of major importance to refugee readjustment, as English proficiency affects labor force participation, unemployment rates, and earnings. However most of the effort by the Office of Refugee Resettlement -- in terms of promoting employment -- has focused on adults in families with children to increase employment and reduce welfare dependency.

Department of Labor

The Office of Policy Development coordinates DOL's literacy efforts. However, most of the work in the area of basic skills/literacy training for older workers falls under the auspices of the Senior Community Service Employment Program (SCSEP) and the Job Training Partnership Act (JTPA), both of which are administered by the Employment and Training Administration (ETA).

Senior Community Service Employment Program

SCSEP, funded under Title V of the Older Americans Act, provides part-time employment opportunities to low-income persons 55 and over. Program participants work in schools, senior centers, parks, social service agencies and non-profit community organizations. While literacy is not a focus of the program, DOL requested that the program sponsors address literacy in their grant applications for the program year beginning July 1, 1988.

A review of the national sponsors of SCSEP indicates there is not a concentrated or coordinated effort toward an established on-going literacy program. Although there is no national effort to utilize Title V enrolles as tutors or to train them in basic education, individual local programs within the SCSEP network are involved in some type of literacy effort.

For example, the Child and Family Service in Ypsilanti, Michigan, a sub-grantee of the National Council of Senior Citizens, conducts a "literacy audit" of its Senior Aides Program participants. The "literacy audit" involves testing a large group of Senior Aides to determine their occupational skill options through training by JTPA and other programs offered at a local community college. Participants who score low on the test have the opportunity to receive one-on-one tutoring by another Senior Aide who is a certified literacy tutor.

Job Training Partnership Act Programs

JTPA shifted federal control and direction of job training programs to state control of program development and oversight of local implementation. Therefore, the emphasis on literacy training for employment and training participants often varies from state to state. Though ETA has curtailed the collection of data on services provided under JTPA, some information is available about basic skills and literacy training provided to older workers (55 and over).

Three Percent Set-Aside Program for Older Workers. The primary JTPA program serving older adults is the Three Percent Set-Aside Program that is authorized for the specific purpose of training and placing disadvantaged persons 55 and over into private-sector employment. Three percent of JTPA Title IIA funding for adult training is reserved for these programs which are administered at the state level.

A recent survey of local JTPA Three Percent projects conducted by the Prime Time Productivity Program of the National Council on the Aging (NCOA) found that only 127 participants, about 2.5 percent, out of 5,000 program participants received any type of basic skills or literacy training [33]. About 28 percent of the participants in this survey were older minorities. This was similar to the findings of NCCBA) in its report entitled "Job Placement Systems for Older Workers" in which only two percent of the 1,548 participants (41 percent minority) studied were receiving remedial education [34]. NCCBA staff visited with 23 local JTPA Three Percent programs in 12 states. Fewer than 20 percent of the programs in the NCCBA study collaborated closely with the educational community through adult education, literacy groups, general education development (GED) classes, or vocational education programs [33].

No national data are available on the JTPA Three Percent program to compare with the above findings. However, the NCOA and NCCBA findings indicate that very little seems to be done to improve the basic skills of JTPA Three Percent participants, although the educational background of the participants shows a real need for this training. Over one-quarter of the participants in the NCCBA sample had an eighth grade education or less and 46 percent had less than a high school education [33].

JTPA Title IIA Program for Disadvantaged Adults. Low-income persons 55 and over are also served by JTPA Title IIA programs. During the 1986 program year (July 1, 1986 to June 30, 1987), Title IIA programs served approximately 21,000 older workers [35]. Seventeen percent of these participants were blacks, eight percent were Hispanics, and three percent were of other minorities. Almost one out of every four of these Title IIA participants received skills training in a classroom setting, but it is not known how many received literacy or basic skills training. Seventy percent of the older participants in these programs found jobs at an average wage of $5.00 per hour. No specific data are available on the employment status for the minority participants.

Dislocated Worker Program. Title III of the JPTA provides job training and placement services to dislocated workers --persons who have lost their jobs due to plant closings or permanent lay-offs. Workers served under Title III include older adults. According to a General Accounting Office (GAO) study, about eight percent of the dislocated workers served were 55 and over (9,603 individuals) [18]. However, at the same time, the Bureau of Labor Statistics reported that about 20 percent of the 1.3 million eligible dislocated population was 55 or over. GAO found that the more training a dislocated worker program provided, the less likely it was to serve older workers. A report from the National Commission for Employment Policy on JTPA noted that older dislocated workers were less likely than younger dislocated workers to be placed in classroom or on-the-job training or to obtain employment [36]. Less than one-third of the dislocated worker programs offer or coordinate with other programs for basic skills or literacy training. Program data do not show how many older dislocated workers received literacy training.

Department of Education

Although there are many federal programs serving illiterate adults, the Adult Education program is the major federal program that provides basic education and literacy skills instruction. The DOE has 29 programs which fund literacy activities [36]. Most services to older persons come under the Adult Education Act (Public Law 91-230) through formula grants to the states. The following discusses DOE's literacy training provided to older individuals.

Adult Literacy Initiative

In 1983, President Reagan established the ALI within DOE to create awareness of the country's illiteracy problem and to coordinate efforts between the public and private sectors. ALI is not a legislatively mandated program, but is based on various discretionary authorities available to the Secretary of Education [6]. DOE took several actions to facilitate collaboration among the various groups interested in improving the literacy skills of adults. These actions included the establishment of (1) LITLINE, a national computer literacy information system; (2) UPDATE, a newsletter for the adult literacy community; (3) the Federal Employee Literacy Program (FELT), which recruits, trains, and places federal employees as literacy volunteers; and (4) coordination with state and local governments and corporations interested in literacy efforts.

Adult Education Programs

Adult education programs receive funding under the Adult Education Act as formula grants to the states. At the federal level, DOE distributes approximately 100 million dollars annually to the states. These are matched with $200 million in state funds to provide basic education to adults 16 years of age or older. Although the Act requires only a 10 percent match of non-Federal funds, state and local funds make up more than 50 percent of the total adult education budget [37]. Adult education programs that focus on adult basic education and English as a second language comprise the primary federal effort to address basic skills needs of adults. Annually, these serve approximately three million individuals 16 and over are served annually. Of these, only 6.2 percent -- about 184,000 persons --are 60 and above. The percentage of the funds allocated to older persons varies widely, from a low of one percent in some states to a high of 19 percent in others. Statistics for adult education classify older persons as 60 and above [37].

The majority of the older adults served were in adult basic education (ABE) classes (below eighth grade level), while some attend classes to obtain the equivalent of a high school diploma, the GED certificate. Older individuals also attend classes in English as a second language and life coping skills. The ABE program sites attended most frequently by older persons were local education agencies and community colleges, although classes were also available in churches, libraries, nutrition sites, nursing homes and senior centers.

In their background paper prepared for an AARP round table discussion on the literacy and employment needs of older adult, Toni Quarles and Brenda Lester reported that almost two-thirds of the three million adults served by adult education programs are minorities, with Hispanics comprising the largest group, followed by blacks and Asians. Only one percent of those served are American Indians or Alaskan natives. Most minorities served take classes for persons with skills ranging from the first to the eighth grade levels.

In DOE's State Profiles on Older Persons, about 80 percent of the State Departments of Education reported no linkage with national aging organization [37], and only a few mentioned employment and training programs. However, most of the states reported linkages at the local level with Area Agencies on Aging (AAAs), Retired Senior Volunteer Programs (RSVP), AARP, social service agencies, libraries, and businesses.

The South Carolina Coordinated Approach is an example of a program that coordinates with aging agencies. Each school district has a literacy coordinator that works closely with aging organizations such as Green Thumb, AARP chapters, Retired Teachers Associations (RTA) and local offices on aging to recruit both older students and tutors. The local literacy programs link with JTPA, though JTPA programs serve mostly adults under 45. Many older adults work in the local literacy offices and tutors are often retired teachers. In South Carolina over 8,800 older persons were served

during the last program year. However, a statistical break-out for minority participation was not available.

English As a Second Language

About 41 percent of the total adult education enrollment is in the English as a Second Language (ESL) program [38]. Persons who enroll speak a native language other than English and have limited English proficiency. ESL classes teach basic skills of reading, writing, and computation, survival English for coping with daily living in the U.S., and language skills needed to get and keep a job. Hispanics and Asians are the largest groups served in adult ESL programs.

Adult Education Special Projects

Section 353 (formerly Section 310) of the Adult Education Act requires states to set aside 10 percent of their federal funds for special experimental demonstration and teacher training projects [39]. This section calls for services to promote effective programs and to develop innovative methods. Each year several states target literacy services to the older population for experimental projects [6].

The Institute for the Study of Older Adults (ISOA), in the Division of Continuing Education at the New York City Technical College, is one example of a demonstration project that served older minorities. One of the four pilots ISOA operated was a basic education course at a predominantly black senior center located in Brooklyn. The reading level of the 39 participants ranged from third to seventh grade equivalency [40]. ISOA also sponsored two pilot ESL classes -- one in a senior center that had increased its Hispanic membership and one for Russian immigrants -- which emphasized basic vocabulary.

From these pilot projects and interviews with adult educators and administrators, ISOA made the following recommendations:

- **Location.** ISOA determined that the most important decision in planning ABE for older adults is site selection which determines the target population, transportation options, available facilities, and materials as well as recruitment methods.

- **Transportation.** Programs for older adults must consider transportation demands and accessibility. ISOA found that many older people would not use public transportation, citing safety, cost, and physical obstacles.

- **Attitudes.** ISOA found that ABE educators gave priority to those seeking pre-employment language skills, thereby often discouraging recruitment of older people who were not perceived as candidates for the labor market. ISOA also pointed to the many pressures on educational programs for higher test scores, retention rates, and success of students.

Workplace Literacy

To facilitate the progress of entry level workers, Section 371 of the Adult Education Amendments established new funding specifically for workplace literacy partnership programs. In a preliminary sampling done for this study, Quarles and Lester found that older adults were involved less than one percent of the time. For example, the Vance-Granville Community College is working with Harriet Henderson Yarns, Inc., Adam Millis Hosiery and the Franklinton Cotton Mill to provide basic education to their employees. In all the classes given on site and at other sites such as senior centers, even with heavy recruiting, only two older (60 and over) adults participated.

In 1988, DOE's Workplace Literacy Partnership Program announced the award of 37 grants, totaling more than $9.5 million to support projects in 26 states and the District of Columbia. Grants cover 70 percent of total program costs with 30 percent matching funds to come from the partners and each partnership must include at least one private organization and one education partner [41].

Workplace literacy programs also have been implemented as Section 310 special projects. An analysis of these programs in FY 1988 found that ten workplace literacy programs were funded in five states. Funding totalled $158,000 with median project funding of $17,000 [39].

ACTION

Administered by ACTION, RSVP makes grants to state and local government agencies and private, non-profit organizations to provide opportunities for retired persons 60 and over to serve their community through volunteer service. Almost half of the volunteer activities are involved with literacy programs that focus on (1) job-related literacy to improve interviewing and job development skills, (2) assisting minorities who need special attention in reading, mathematics and spelling, and (3) providing tutorial help for refugees and children for whom English is a second language [29]. RSVP tutors also work with older students generally on a one-on-one basis.

According to Quarles and Lester, when RSVP received a budget increase in fiscal 1985, the funds were used for a literacy initiative. In spring, 1985, the RSVP Literacy Project began when ACTION and B. Dalton Bookseller awarded funds to Laubach Literacy Action to provide literacy seed grants from $2,000 to $5,000 each to RSVP projects on a competitive basis and to
provide technical assistance to all RSVP projects interested in adult literacy. More than one-half of the 750 RSVP projects nationwide enrolled in the National RSVP Literacy Network established by Laubach Literacy Action to provide technical assistance, mailings, and other information on adult literacy. Additional information is provided on this initiative in the section on Laubach Literacy Action.

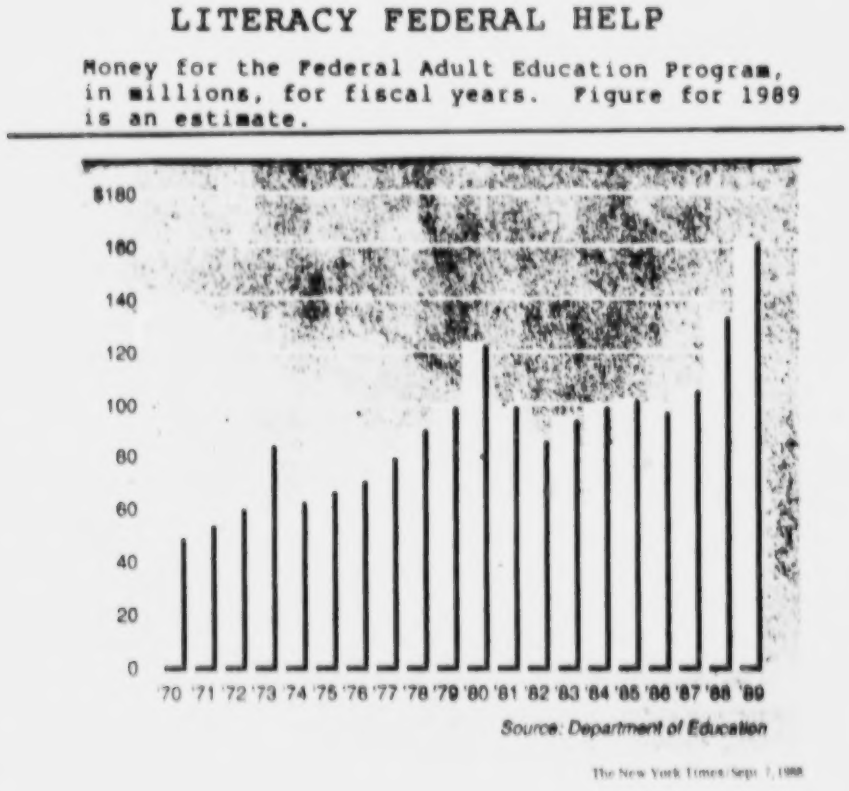
LITERACY FEDERAL HELP
Money for the Federal Adult Education Program, in millions, for fiscal years. Figure for 1989 is an estimate.
$180
160
140
120
100
80
60
40
20
0
'70 '71 '72 '73 '74 '75 '76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89
Source: Department of Education
The New York Times/Sept. 7, 1988

Figure 6. Reprinted by permission.

In summary, numerous literacy initiatives exist at the federal level. However, the National Commission for Employment Policy found that these federal programs are generally not coordinated with each other and have no centralized data base containing information on all the federal literacy programs [33]. Additionally, based on a survey of current efforts to reduce adult illiteracy, the Working Group on Adult Literacy, estimated that the federal government spends only a total of $300 million a year on the problem and that states spend an additional $300 million. Thus, Dale Johnson, vice-president of the American Reading Association, figures that this comes to only $20 a year for every American adult who does not have a high school diploma [27]. Furthermore, as shown in Figure 6, although the problem has persisted, in relationship to the size of the literacy problem, there has been a paucity of federal expenditures for adult education programs. As Senator Paul Simons (D-Ill) noted, only two percent of the federal budget goes to education and only one percent of the education budget goes to adult literacy programs.

VOLUNTEER LITERACY ORGANIZATIONS

Laubach Literacy Action and Literacy Volunteers of America, both

headquartered in Syracuse, N.Y., are the two major national voluntary literacy organizations. A discussion follows of their activities in terms of providing literacy training to older people and working with aging organizations.

Literacy Volunteers of America

Literacy Volunteers of America (LVA) operates about 200 tutoring programs in 31 states [42]. The headquarters staff in Syracuse support these programs by offering technical assistance training for tutors, workshop leaders and an array of useful publications. These publications include a diagnostic tool for assessing a student's entry-level skills, a handbook used by ESL tutors, and a series of student workbooks and textbooks which range from zero to seventh grade reading level. LVA is a charter member of the National Coalition for Literacy.

In early 1984, LVA conducted a survey of LVA affiliates on literacy and the aging [43]. The report from the survey noted that less than five percent of LVA students were 60 and over, even though, based on the Adult Performance Level study, an estimated nine million, or 34 percent of the 26 million functional illiterate adults in America were aged 60 and over. However, more than 27 percent of LVA tutors and managers were 60 and over. Survey results showed there were seven times as many LVA Basic Reading tutors over 60 as there were Basic Reading students over 60; also there are about five times as many LVA English as a Second Language tutors over 60 as there were ESL students over 60 [43].

LVA presently is collecting demographic information from its affiliates for an annual report. Although in the past, local affiliates did not always keep data on age and other characteristics, LVA staff anticipates that current data being collected will show an increase in students 60 and over.

Quarles and Lester reported that LVA worked with the National Council on the Aging's Literacy Education for the Elderly Program (LEEP). This program helped to create an awareness by the literacy staff and volunteers and the aging network of the need and desire for learning at all ages. LVA continues to work with RSVP programs and AAAs at the local level. They note that recruiting and organizing literacy classes for the elderly are time consuming activities: organizing a class of four or five older adults requires about the same amount of time as a class of 20 younger people.

Laubach Literacy Action

Laubach Literacy Action (LLA) is Laubach Literacy International's volunteer membership organization in the United States, with 50,000 trained volunteers in 600 communities in 21 states. Each year volunteers work with some 60,000 adults, many of whom read at or below the third grade level or are learning English as a second language [44]. LLA publishes books which form the core curriculum of the Laubach training and tutorial approach. LLA is also the largest member of the National Coalition for Literacy, of which it is a charter member.

Both LVA and LLA local programs have very small operating budgets and rely extensively on local volunteers to carry out the literacy programs. LLA has developed a partnership with RSVP around the country. LLA with RSVP attempted to mobilize older people as literacy tutors and support staff. LLA funded 71 small projects with a budget of $2,000 to $5,000 each to recruit older adults as volunteers. In a few projects older students were also recruited.

CORPORATE LITERACY INITIATIVES

Quarles and Lester reported that the American Society for Training and Development (ASTD) estimates that more than $2 billion a year is spent by private companies on basic skills training in the workplace. While most of these programs are serving adults, few have reached the age group over 55. Employers contacted said that their older employees were generally reluctant to admit the need for literacy training and therefore few take advantage of programs offered at their work site.

The Business Council for Effective Literacy

The Business Council for Effective Literacy (BCEL) was created in 1983 with three objectives: to achieve a greater awareness on the part of the public and especially within the business community of the increasingly grave problem of adult functional illiteracy; to encourage the business community to take a more active role in dealing with the problem; and to serve as a spokesman for the business community in regard to issues of literacy [45]. BCEL promotes employer participation in literacy activities. According to BCEL, basic skill deficiencies contribute to low productivity, absenteeism, accidents, decreased profits and a reduced pool of candidates for hire, promotion or advancement.

To increase business and industry's involvement in literacy training, BCEL recommends the following:

- Provide financial or in-kind support to local or national adult literacy programs such as LVA, LLA, library programs, and community-based organizations.
- Join and/or provide financial support to local and state literacy planning and coordinating councils and agencies to target programs to older adult illiterates
- Provide financial support for adult literacy centers, research, data gathering and information dissemination.
- Set up employee basic skills programs.
- Encourage company executives, employees, and their families to serve as volunteers in community literacy programs.

- Press for more public support for literacy programs and planning on the local, state, and national levels -- working through civic leadership positions such as trustees of school boards, libraries, community colleges, voluntary organizations, and other literacy involved organizations [46].

CONCLUSION AND SUGGESTED OPTIONS

WHO IS HELPING

Here is a breakdown of the various kinds of illiteracy programs and the number of people they serve.

Program	Number served*
Federal efforts	1.5 million
Community colleges	3 million
Labor unions	100,000
Public libraries	small numbers
Corporations	600,000
Literacy Volunteers of America	21,000
Laubach Literacy Action	60,000
Community-based programs	700,000
Total being served	**6 million**
Total who need help**	**27 million**

*Where estimates differ, the highest number has been used.
**Those who read below an 8th grade level.
SOURCE: Business Council For Effective Literacy

The Dallas Morning News

There is an array of private and public sector literacy programs. However, as shown in Figure 7, these initiatives fail to reach the majority of persons in any age group that are categorized as illiterate. This is especially so for older adults, and particularly so for those who are minorities.

Historically, for a number of reasons, large numbers of minorities have experienced a lifetime of illiteracy. The consequences are poor employment skills, the concomitant inability to advance in the job market and insufficient retirement income. There is evidence that as the number and proportion of older adults continue to increase, many will desire and need to remain in the workforce.

Figure 7. Reprinted by Permission

Adults 65 and over represent 12.4 percent of the estimated 238.2 million people in the U.S. today, and this sub-group's percentage is expected to grow as the "baby boom" generation ages.

For older adults to succeed in finding and retaining employment, literacy educators, government policy makers and employers must address needs related to literacy and employment. Placing minorities in low-skill, low-wage jobs without any prior basic skills or occupational skills training does little to prepare these persons for advancement on the job or even to adapt to changes in the workplace. Without basic literacy skills, older minorities cannot take advantage of vocational skills training. If older workers are going to remain competitive and productive on the job they must be able to improve their literacy skills.

The total cost of illiteracy to the U.S. economy cannot be accurately measured, but critics insist the nation is paying dearly in lost productivity and in human misery [42]. Not only is a literate older population important for its own well-being, but also for

general economic reasons. Also, often illiteracy is perpetuated in families from one generation to the next. This coupled with a small work force having to support a growing aging population makes achieving literacy by older adults important for the sake of future generations.

It is clear that there is a need to strengthen existing policies and to develop alternative policies to effectively combat illiteracy in the older adult population. Many of the problems revealed in this review concur with those reported in the recent publication, "Jump Start."

- The problem of fragmentation and lack of coordination among the various federal agencies responsible for basic skills education.
- The lack of adequate federal resources to address the problem.
- The need for the public sector to increasingly join forces with voluntary and business efforts to combat illiteracy.
- The need for more workplace literacy training.
- The need for more research and data on effective practice in the field.

In addition, this review indicates that some of the reasons why older adults and especially older minority adults are under-served in most of the existing programs include:

- Low priority for literacy services, particularly as related to the workplace.
- Seldom are targets for training.
- Lack of support services such as convenient locations and available transportation.
- Lack of special outreach and recruitment.
- Individual social and psychological barriers resulting in reluctance to engage in literacy training.

These problems indicate the need to improve and increase the present initiatives for literacy training. Because the federal government plays an important role in assuring that individuals of all ages receive opportunities to learn basic literacy and coping skills, it is imperative that leadership at the national level is increased. The following suggestions are made toward this goal in general:

- Establish a quasi-governmental national institute for adult literacy to sponsor research and serve as a resource for governmental agencies and private groups.

- Establish a standard definition of illiteracy with valid and reliable measures.

- Develop and implement a coordinated national policy on adult literacy.

To make literacy training for older adults a higher priority and to make them tailored to their special needs at the federal, state, and local levels, the following recommendations are made:

- Protect the existing initiatives that provide literacy training for older adults from any reductions by future legislation.

- Promote coalition building between organizations serving older minorities and literacy providers to coordinate educational, employment and supportive services for older adults.

- Increase incentives for special outreach to recruit older adults, especially those who are minorities, for literacy services tailored to their specific learning needs and sensitive to the problem of illiteracy in adulthood.

- Increase federal appropriations to enable adequate funding levels for literacy programs that target older adults.

- Collect better data on the rate of illiteracy in the older adult population.

- Allocate funds to areas based on the prevalence of illiteracy so as to reach older groups who have the most need for literacy services.

- Develop literacy training programs especially designed for the older population closely linking literacy and occupational skills training.

- Improve the teaching techniques and methods needed to meet the learning needs of older minorities.

- Promote the recruitment and hiring of bilingual tutors, co-workers, team leaders, and supervisors to work with older minorities.

- Strengthen the link between literacy training and employment services for older minorities with specific provisions in legislation to increase work place literacy education.

- Develop public education efforts to demonstrate the value and importance of literacy training for older persons' employment potential and overall well-being.

In summary, it is clear that America will not remain competitive in the world's marketplace unless the literacy deficiencies of our present and future workforce are addressed. Federal leadership is key to making this an urgent national priority. Illiterate adults cannot read to their children or help them with their schoolwork. Thus,

illiteracy perpetuates the generation-to-generation of underclass citizens who are poorly prepared to help themselves and our society. The importance of targeting the older worker in the fight against illiteracy is not just an issue of fairness and equity-- it is an issue of economics that affects the future of all generations.

REFERENCES

1. Roger Axford, Adult Education: The Open Door to Lifelong Learning, 1980, page 33.

2. Edward Klein, "An Interview with Barbara Bush," Parade Magazine, May 21, 1989, page 4.

3. U.S. House Subcommittee on Education, Arts and Humanities, "Hearing on the Challenge of Eliminating Illiteracy Part II," May 18, 1989.

4. U.S. Department of Education, Office of Vocational and Adult Education, Program Services Branch, Division of Adult Education, "Who Are the Illiterates and Functionally Illiterates?", September 1988.

5. Mortimer B. Zuckerman, "The Illiteracy Epidemic," 1989, Vol. 106, No. 23, U.S. News & World Report, page 32.

6. U.S. Congress, Senate, Special Committee on Aging, Rept. 101-4, 101 Cong., 1st sess., 1988, Developments in Aging: 1988, Vol 1, page 353.

7. Ezra Bowen, "Losing the War of Letters: A Government Study Finds That One of Eight Americans Cannot Read," 1986, Time, May 5, page 68.

8. Jack A. Brizius, and Susan E. Foster, Enhancing Adult Literacy: A Policy Guide, 1987, page 29.

9. National Caucus and Center on Black Aged, A Profile of Elderly Black Americans, 1988, pages 10-11.

10. U.S. Department of Commerce, "Demographic and Socioeconomic Aspects of Aging in the United States," Current Population Reports, Series P-23, No. 138, August 1984, page 99.

11. Literacy Volunteers of America, Facts on Illiteracy in America, page 1.

12. Program Resources Department, Administration on Aging, U.S. DHHS and the American Association of Retired Persons, "Profile of Older Americans," 1988.

13. AARP Minority Affairs Initiative, "A Portrait of Older Minorities."

14. American Association of Retired Persons, "Hispanic Elderly," Draft, Roundtable Fact Sheet.

15. Arturo Vargas, Literacy in the Hispanic Community, 1988, page 7.

16. Gerda Lerner, Black Women in White America: A Documentary History, 1973, pages 27-33.

17. Forrest P. Chisman, Jump Start: The Federal Role in Adult Literacy, 1989.

18. U.S. General Accounting Office, Report to the Congress, Dislocated Workers, Local Programs and Outcomes Under the Job Training Partnership Act, 1987, page 6.

19. William Dunn, "U.S. in for Baby Boom Bust," USA Today, June 9, 1989, page 3A.

20. "Companies Try to Keep Older Workers," April 11, 1989, Journal of Commerce.

21. U.S. Department of Health and Human Services, Refugee Resettlement Program, Report to the Congress, 1988, pages 134-140.

22. U.S. House of Representives Committee on Ways and Means, 1989, Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means, page 483.

23. Ellen Graham, "If Johnny Can't Read, the U.S. Can't Compete," The Wall Street Journal, June 23, 1989.

24. William B. Johnston and Arnold E. Packer, Workforce 2000: Work and Workers for the 21st Century, 1987, pages 97-107.

25. Edward Fiske, " National Policy Urged to Combat Adult Illiteracy," Friday, September 9, 1988, The New York Times.

26. "Hazards of Illiteracy," May 1, 1989, Post Gazette, Pittsburgh, PA.

27. National Commission For Employment Policy, Older Workers: Prospects, Problems and Policies, 9th Annual Report, No. 17, 1985, page 18.

28. American Association of Retired Persons, "Work and Retirement: Employees Over 40 and Their Views," 1986, page 11.

29. Patricia A. Lang, FICE Handbook, A Guide to Using the Federal Interagency Committee on Education's Literacy Management Information Study, 1987, page 12.

30. U.S. Department of Health and Human Services, News Release, January 7, 1986, pages 2-3.

31. Indiana Department on Aging and Community Services, Older Adult Literacy Program in Indiana, Final Report, 1987, pages 1-7.

32. Older Alaskan Commission, Older Alaskan Computer Literacy Program, Final Narrative Report, 1987, pages 1-4.

33. Brenda Lester, Older Worker-Employment: An Analysis of the JTPA 3 Program, 1988, page 14.

34. National Caucus and Center on Black Aged, Job Placement Systems for Older Workers, Vol. 1, 1987, page II-11.

35. Janet W. Johnston, The Job Training Partnership Act. A Report by the National Commission for Employment Policy, 1987, page 95.

36. U.S. Department of Labor, Office of Strategic Planning and Policy Development, Employment and Training Administration, Summary of JTLS Data for JTPA, 1987.

37. U.S. Department of Education, Office of Vocational and Adult Education, Division of Adult Education, 1987, "Older Persons, Literacy Education for Older Persons: State Profiles," pages 1-52.

38. Joyce Folkes Campbell, Teaching English to Adults with Limited English Proficiency, U. S. Department of Education, page 1.

39. James T. Parker, "Analysis of FY-1988 310 Projects," U.S. Department of Education, page 2.

40. Melissa Spore, Extending Basic Education to the Elderly: A Guide to Program Development, 1981, pages 25-42.

41. U.S. Department of Education News Media Update, October 19, 1988," A review of current programs and projects at the U.S.Department of Education."

42. Wally "Famous" Amos, "Testimony before Senate Subcommitte on Education, Arts, and Humanities," May 18, 1989, page 1.

43. The Reader: Newsletter of Literacy Volunteers of America, Vol. 6, No. 2, 1984, pages 1 and 4.

44. Michael H. Merill, "A Helping Hand: Education Programs for the Functionally Illiterate," Lifelong Learning, Vol. 11, No. 7, 1988, pages 25-26.

45. Harold W. McGraw, "Functional Illiteracy in the Work Force: A Statement Submitted on Behalf of the Business Council for Effective Literacy to the Senate Committee on Labor and Human Resources," May 18, 1989, page 1.

46. Ann Skagen, Workplace Literacy, An Executive Summary, 1986, pages 6-8.